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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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KATTEN MUCHIN ROSENMAN LLP  
575 MADISON AVENUE  
NEW YORK, NY 10022-2585

EXAMINER

ZERVIGON, RUDY

ART UNIT PAPER NUMBER

1763

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/807,589

**Applicant(s)**

PRETI ET AL.

**Examiner**

Rudy Zervigon

**Art Unit**

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 4-15 is/are allowed.
- 6) ☒ Claim(s) 16-18 and 20-31 is/are rejected.
- 7) ☒ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 16-18, and 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conger, Darrell R. (US 4,761,269 A) in view of Tomoyasu, Masayuki et al. (US 5,888,907 A). Conger, Darrell R. et al teaches a reaction chamber (Figure 5; column 7, line 48-68) for an epitaxial reactor comprising: a belljar ("quartz dome", 112; Figure 5; column 5, line 54 - column 6, line 14); a susceptor (114; Figure 5; column 5, line 54 - column 6, line 14) inside the belljar ("quartz dome", 112; Figure 5; column 5, line 54 - column 6, line 14); and a diffuser (16; Figure 2,5; column 5, line 54 - column 6, line 14; column 7, lines 49-68) disposed on the top of the belljar ("quartz dome", 112; Figure 5; column 5, line 54 - column 6, line 14); the belljar ("quartz dome", 112; Figure 5; column 5, line 54 - column 6, line 14) being made of insulating and transparent material and having an upper flange (16/112 interface; Figure 5), the flange joined to a neck (upper portion of 112; Figure 5; column 5, line 54 - column 6, line 14), the susceptor (114; Figure 5; column 5, line 54 - column 6, line 14) comprising a body shaped like a truncated pyramid (compare with Applicant's susceptor 32; Figure 1), the susceptor (114; Figure 5; column 5, line 54 - column 6, line 14) being provided with disk-shaped cavities (holding substrates 14; Figure 5; column 5, line 54 - column 6, line 14) for receiving wafers of material to be treated, and supporting an insulating and chemically resistant plate (lower portion of "quartz dome" above 114; Figure 5; column 5, line 54 - column 6, line 14) above it, the plate (lower portion of "quartz dome" above 114; Figure 5; column 5, line 54 - column 6, line 14) facing the

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flat zone of the belljar (“quartz dome”, 112; Figure 5; column 5, line 54 - column 6, line 14); the diffuser (16; Figure 2,5; column 5, line 54 - column 6, line 14; column 7, lines 49-68) being formed by a cap (16; Figure 2; column 5, line 54 - column 6, line 14) supplied by a central dome-piece (28; Figure 2; column 5, line 54 - column 6, line 14) connected to a symmetrical annular distribution chamber (80; Figure 2; column 5, line 54 - column 6, line 14); wherein the internal diameter of the cylindrical zone of the belljar (“quartz dome”, 112; Figure 5; column 5, line 54 - column 6, line 14) is sized to keep the belljar (“quartz dome”, 112; Figure 5; column 5, line 54 - column 6, line 14) from the susceptor (114; Figure 5; column 5, line 54 - column 6, line 14) – claim 16.

Conger does not teach that Conger’s shoulder (curved upper portion of 112; Figure 5) is joined to a flat zone and a cylindrical zone joined to Conger’s shoulder (curved upper portion of 112; Figure 5). Conger does not teach that Conger’s plate (lower portion of “quartz dome” above 114; Figure 5; column 5, line 54 - column 6, line 14) is “flat”. Conger does not teach having a plurality of pipes of the same length which connect Conger’s annular chamber (80; Figure 2; column 5, line 54 - column 6, line 14) of Conger’s cap (16; Figure 2; column 5, line 54 - column 6, line 14) to a dome zone of Conger’s belljar (“quartz dome”, 112; Figure 5; column 5, line 54 - column 6, line 14) situated just underneath its neck (upper portion of 112; Figure 5; column 5, line 54 - column 6, line 14), the plurality of pipes feeding gases into Conger’s belljar (“quartz dome”, 112; Figure 5; column 5, line 54 - column 6, line 14) and ensuring a uniform distribution of gas flow at a lower speed.

Tomoyasu teaches Tomoyasu’s shoulder (32; Figure 1) is joined to a flat zone (horizontal 32/4 interface) and a cylindrical zone (vertical 32/4 interface) joined to Tomoyasu’s shoulder (32;

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Figure 1). Tomoyasu teaches that Tomoyasu's plate (40) is "flat". Tomoyasu teaches having a plurality of pipes (46, 64; Figure 1) of the same length which connect Tomoyasu's annular chamber (62, 44a-d; Figure 1) of Tomoyasu's cap (42) to a dome zone of Tomoyasu's reactor situated just underneath its neck (flange portion of 42), the plurality of pipes feeding gases into Tomoyasu's reactor (4) and ensuring a uniform distribution of gas flow at a lower speed.

***Allowable Subject Matter***

3. Claims 1, 4-15 are allowed. Amended claim 1 complies with the previous objection.
4. Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art teach or suggest "fixing of the cap of the diffuser to the annular flange is performed by means of a plurality of spring-loaded tie-rods which push in an elastic manner to the cap against the annular flange".

***Response to Arguments***

5. Applicant's arguments with respect to claims 16-31 have been considered but are moot in view of the new grounds of rejection.

***Conclusion***

6. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272.1442. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official fax phone number for the 1763 art unit is (703) 872-9306. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435.

A handwritten signature in black ink, appearing to read 'Rudy Zervigon', with a stylized flourish below it that looks like 'up/b'.